

May 17, 2005, the Examiner took Official Notice that it would be obvious that a monitoring process could be accomplished during a first predetermined time period. In the response to that Office Action, the Applicant did not dispute that it would be obvious to perform "a monitoring process" during a predetermined time period. However, that is not an admission that the particular sequence of steps involved in Applicant's monitoring process would have been obvious. The mere fact that one wishes to monitor during a predetermined time period does not suggest how such monitoring should be performed.

Applicant's claim 1 recites a monitoring process whereby, after the first control input device for activating adaptive grayscale adjustment has undergone a change in state, the state of a second control input device for setting gain and the state of a third control input device for setting dynamic range are monitored. Subsequent to a change in the state of either the second or third control input devices, the states of the second and third control input devices and the state of a fourth control input device for activating image capture are monitored. If the changed state of the second or third control input device has stabilized or if the state of the fourth control input device has changed to a state corresponding to activation of image capture, then the pixel intensity histogram is analyzed and the operator-achieved upper and lower grayscale levels are stored. This sequence of steps is nowhere disclosed in Nagarajan. Nor is the sequence of steps included in the

aforementioned admitted prior art.

Nagarajan discloses a system wherein any one of a number of user settings is monitored.

[O]nce a sufficient number of samples is collected (e.g., images scanned), the user settings and image processing parameters are analyzed to determine a trend. If a trend is observed, then the user settings would be changed to the most commonly used settings.

[Nagarajan, col. 3, lines 16-20.]

More particularly, "the most frequently used image processing settings (parameters) are determined by ascertaining whether more than a certain number or certain percentages of scan jobs (e.g., 80%) use the same image processing setting (parameter)". [Nagarajan, col. 6, lines 26-30.] For example, with regard to the ABS level setting, on which the Examiner relies, the Nagarajan patent states:

If less than 80% of the scan jobs have the same ABS level setting, then there is no trend and the ABS level setting is the manually inputted or factory determined default mode (360). If 80% or more of the scan jobs have the same ABS level setting, then the detection parameters for each ABS level govern the detection of the background peak (mean graylevel and standard deviation) and the amount of background suppression that needs to be applied are updated to obtain the best results for this ABS level setting.

[Nagarajan, col. 6, lines 44-52.]

Based on the foregoing, the Applicants submit that Nagarajan clearly only teaches that a particular user setting can be monitored by detecting a trend in that particular user setting. The trend for that setting is determined by monitoring that user setting for successive scan jobs. Since successive

scan jobs are performed at respective times selected by the system operator, the idea of monitoring during a predetermined time period would involve detecting the user settings for multiple scan jobs performed during that predetermined time period. Accordingly, the predetermined time period would need to be longer than the average interval between successive scan jobs. Moreover, the monitoring of a single user setting, as taught by Nagarajan, would entail monitoring the state of a single control input device.

In contrast, the invention recited in claim 1 involves monitoring first through four different control input devices. First, the adaptive grayscale is adjusted (step (c) in claim 1). Then, either the gain or dynamic range setting is changed (step (e) in claim 1). Thereafter, a monitoring operation is performed (step (f) in claim 1) to determine whether the changed gain or dynamic range setting has stabilized or whether the image has been captured. If any of those three events has occurred, then the pixel intensity histogram of the further contrast-adjusted version of the image frame is analyzed to determine the operator-achieved upper and lower grayscale levels (step (g) in claim 1). The latter are then stored (step (h) in claim 1).

Steps (b) through (g) of claim 1 recite, in substance, that the pixel intensity histogram is analyzed if the following conditions have been met: that an adaptive grayscale adjustment has been performed, followed by a change in the gain or dynamic

range setting with a first predetermined time, followed by either stabilization of the changed gain or dynamic range setting for a second predetermined time or image capture. More precisely, histogram analysis is performed in response to the occurrence of any one of four sequences of changes in the states of the control input devices: (I) state of first control input device (adaptive grayscale adjustment) is changed, then state of second control input device (gain setting) is changed, and then state of second control input device becomes stable; (II) state of first control input device is changed, then state of third control input device (dynamic range setting) is changed, and then state of third control input device becomes stable; (III) state of first control input device is changed, then state of second control input device is changed, and then state of fourth control input device is changed (image capture); and (IV) state of first control input device is changed, then state of third control input device is changed, and then state of fourth control input device is changed.

The Applicants respectfully submit that the steps of claim 1 constitute a rule that is neither disclosed nor suggested by Nagarajan combined with the admitted prior art. The truth of the foregoing is readily apparent from the fact that Nagarajan does not disclose a system having first through fourth control input devices for respectively controlling adaptive grayscale adjustment, gain, dynamic range and image capture, all of which are recited in the third paragraph of Applicants' claim 1. In

the Final Rejection, the Examiner finds a control input device for activating adaptive grayscale adjustment at column 6, lines 52-67, of Nagarajan; and finds a control input device for activating image capture at column 8, lines 12-16, of Nagarajan. As for control input devices for setting gain and dynamic range, the Examiner cites to column 6, lines 44-58, and asserts that "ABS adjustments . . . include setting gain and dynamic range" (emphasis added). The Applicants understand the Examiner's use of the verb "include" to mean that the gain and dynamic range are set as a result of the ABS adjustment. In other words, the ABS, gain and dynamic range are all adjusted as a result of manipulating a single control input device for setting the ABS level. The Examiner does not assert that Nagarajan discloses separate control input devices for controlling ABS, gain and dynamic range. Moreover, the extract cited by the Examiner to show disclosure by Nagarajan of second and third control input devices for setting gain and dynamic range, to wit, column 6, lines 44-58, does not mention either gain or dynamic range, let alone separate control input devices for setting gain and dynamic range.

Thus, Applicants respectively submit that a *prima facie* case for obviousness has not been made because not all of the limitations of claim 1 can be found in the combination of Nagarajan and the admitted prior art. Nagarajan contains no teaching of first through fourth control input devices for respectively controlling ABS, gain, dynamic range and image

capture. Since Nagarajan does not teach a system having such first through fourth control input devices, it should be self-evident that Nagarajan does not teach the steps of monitoring the states of first through fourth control input devices for respectively controlling ABS, gain, dynamic range and image capture. In particular, Nagarajan in combination with the admitted prior art (to wit, that monitoring can occur within a predetermined time) does not disclose or suggest monitoring the states of second and third control input devices for setting gain and dynamic range respectively (step (d) and (f) in claim 1). Nor does Nagarajan disclose any of the recited steps that occur as a result of such monitoring (i.e., steps (e), (g) and (h)).

In the Examiner's Response to Applicants' Arguments (page 7 of the action), the Examiner asserts that Nagarajan discloses several control settings used to set the contrast of the scanned images, such as ABS setting, TRC selection, Lighter/Darker setting, contrast setting and filtering. However, Nagarajan does not state that all of these settings are included in his system. Instead, Nagarajan states:

Image processing mode, autobackground suppression
(ABS) setting, TRC selection, lighter/darker
[setting,] contrast setting, filtering and rendering
are all examples of image processing (IP) settings
(parameters).

[Nagarajan, col. 5, lines 38-41.] The clear implication is that these are merely examples of settings that could be used in his system.

Most importantly, however, even if the Examiner were correct that all four control input devices recited in Applicants' claim 1 are disclosed by Nagarajan, nowhere does Nagarajan disclose or suggest that any action is taken in response to those control input devices being operated in a predetermined sequence, as required by Applicants' claim.

Accordingly the Applicants submit that claim 1 is not obvious over the combination of Nagarajan and Applicants' admitted prior art. Claims 5, 14 and 15 are not obvious for the same reasons set forth above.

If the Examiner persists in the rejection based on Nagarajan and the admitted prior art, the Applicants request that the Examiner precisely cite those portions of Nagarajan that teach performing a pixel intensity history analysis in response to a predetermined sequence of monitored operations of the first through control input devices. In other words, where in Nagarajan is there a disclosure that histogram analysis is performed in response to detection of multiple control input devices being operated in accordance with a predetermined sequence?

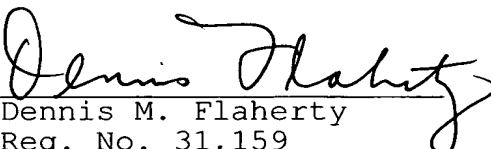
In ¶ 6 of the action, claims 11-13 and 18 have been rejected as being obvious over Nagarajan in view of Applicants' admitted prior art and U.S. Patent No. 6,665,086 Hull et al. The Applicants traverse this ground of rejection for the same reasons, set forth above, that claims 1 and 14, on which claims 11-13 and 18 depend, are allowable.

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In view of the foregoing, Applicants submit that this application is now in condition for allowance. Reconsideration of the application and allowance of claims 1, 5, 11-15, and 18 are hereby requested.

Respectfully submitted,

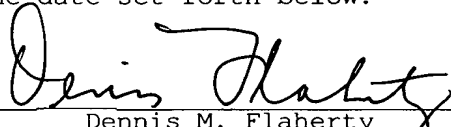
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